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J. BAYLOR ROBERTS

IN MINNESOTA'S NORTHWEST ANGLE, NEIGHBOR BOY AND GIRL MEET FOR A MELODEON DUET

Their community, called Angle Inlet, consists of a post office, one-room school, store, and half a dozen cabins like this. The Northwest Angle gives Minnesota (Bulletin No. 1) a bump on the crown that makes it the most northerly state.

Bulletin No. 1, October 3, 1949

Marking Centennial, Minnesota Looks Ahead

"OUR greatest century? That's the one ahead!" forward-looking Minnesotans told writer Frederick G. Vosburgh when he recently surveyed their state, now celebrating the 100th anniversary of its establishment as a territory.

But the ingenuity of Minnesotans in the present and past is Vosburgh's main theme in his article, "Minnesota Makes Ideas Pay," in the *National Geographic Magazine* for September. This versatility is revealed, he shows, by unusual enterprises which dot the state almost as thickly as do its 11,000 lakes.

Burbot Becomes an Asset

From Duluth each year, for example, go a million or more little Christmas trees, tops of useless stunted bog spruce. Roy Halvorson, the man with the idea, scouts for new Christmas-tree land in an airplane. He brought $750,000 to Duluth in 1948—and a letter from the State Conservation Commissioner complimenting him on improving the forests.

Far north on the wild international boundary, people live in small isolated communities (illustration, cover), but they are not far enough from the world to overlook a local marketable product. A pharmaceutical plant in Baudette transforms the burbot, voracious consumer of good game fish, into a friend of man. This repulsive-looking fresh-water cousin of the cod was long despised. But it has been found to yield a liver oil far richer in vitamins than that of the cod.

Waseca, in southern Minnesota, is the center of a world-wide business in exotic feathers and furs. Plumes of jungle fowl from India, hairs of African orange baboons, moose manes, fox tails, porcupine quills—everything but "eye of newt and toe of frog"—are assembled by George Herter for anglers' use in tying flies that lure fish. Another ingenious Waseca enterprise is the manufacture of two-way radios for police and taxicab fleets. In near-by Austin, Spam was born.

Maple Sirup from Corncobs

Abundant limestone supplies cement and rock-wool plants at Mankato. A novel business there, Vosburgh discovered, is the canning of carp in very palatable form. It had long been netted from Minnesota lakes as a nuisance. Minnesota's wheat, and that from the Dakotas and Montana, make Minneapolis the third milling city in the United States (illustration, next page).

In one prairie town a war-born firm trains young farmers as precision-instrument makers. In another a man produces "maple" sirup from corncobs. At Chisholm, on the famous Mesabi Range, the state's "peat for heat" project is aimed at replacing coal brought from the east. Experimentally, it has produced 89 per cent iron by reducing low-grade ore with peat.

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JACOB GAYER

OLD-WORLD STYLE RIGGING BRINGS NEW-WORLD SAILBOATS INTO BAÍA'S HARBOR

With lateen sails slanting across waterfront buildings, these small coastal craft create an illusion that Baía (Bulletin No. 3) is a Mediterranean port. The triangular sails are characteristic of the Mediterranean. The little boats ply Brazil's coast and bring to Baía fish caught at near-by villages and fruit and vegetables from Baía State's fertile farmlands.

Bonn Bustles as Germany's New Capital

BONN, selected as Germany's first postwar federal capital, has had a busy summer. The formerly quiet university city, best known as Beethoven's birthplace, has bustled with all the building, moving, meeting, electing, and founding necessary in establishing native civilian government for western Germany.

As capital of the West German Federal Republic, Bonn must find room for the extensive offices of consulates and foreign missions, for the Allied high commissioners and their staff, and for thousand of newcomers—permanent and temporary—flocking to the nerve center of a new nation. Ten thousand new housing units are projected.

Bombed Less than Most Rhine Cities

Street signs are in four languages, new streets are planned, and a bridge will be built across the Rhine to replace one destroyed during the war. Bonn lies on the west bank of the Rhine about 15 miles south of Cologne (Köln). Across the river rise the Seven Mountains, beauty spots important in German legends.

Though half the buildings and homes in Bonn were destroyed by war, the Rhine city fared better than many German centers. About one-fifth of the damaged structures have been rebuilt. Near-by Rhine resort towns of Bad Godesburg and Königswinter are helping with the overflow.

One of Bonn's first reconstruction jobs after the war was repairing the walls of the garret nursery where Ludwig van Beethoven, one of the world's great musical composers, was born in 1770. The garret is preserved in its original bare and simple form. The home is a museum.

In the advance of the Allies through the Rhineland in World War II, an American wandered through the Bonn ruins one moonlight night and, finding a piano, struck a few chords of the "Moonlight Sonata." Quite unwittingly, he had entered the Beethoven museum and was playing, on the composer's own piano, one of his noted works (illustration, next page).

University Made City Intellectual Center

Normally, Bonn's life revolves around its large, internationally known university. Before the war, the giant education plant had seven faculties, 80 institutes, and 6,000 students. It was the intellectual capital of the Rhineland and helped give Bonn its reputation as a melting pot and meeting place of nations.

Bonn was founded about 10 B.C. by the Roman legions of the Emperor Augustus. Named Bonna, or Castra Bonnensia, it was one of 50 strong points constructed by Augustus' soldiers along the Rhine. Roman domination ended after 80 years when Bonn saw the imperial legions go down in defeat. From that time until the 13th century the city was of little importance. Then the seat of the electors of Cologne was transferred to Bonn, and walls were built around the city.

In subsequent centuries the walled town was frequently besieged during the continent's recurring wars. In 1717 the city's walls were leveled, and in 1814 Bonn fell to the Prussians. After World War I Allied occu-

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From St. Paul, headquarters of two great rail lines of the northwest, Northwest Airlines now spans the continent and plies "north to the Orient." Hibbing, on the Mesabi Range, cradled the nation's Greyhound system of motorbus transportation three decades ago.

The world has beaten a path to Rochester, Minnesota, city of healing, where rises the 20-story tower of the Mayo Clinic. Half a mile of tunnels under downtown streets connects the clinic with hotels and hospitals. In one of the restaurants a well-placed sign reads: "Of course, we'd dearly love to hear about that perfectly fascinating operation of yours, but not, please, while we're eating."

In the Minneapolis telephone book, writer Vosburgh observes, the Johnsons outnumber the Joneses more than ten to one (4,059 names to 392). The Olsons far outstrip the Smiths (1,646 names to 1,080), not counting the Olsens, Olesens, and seven other variations. Twenty-eight column-inches carry names beginning with the Scandinavian "Bj," most numerous of which are the Bjorklunds.

NOTE: Minnesota is shown on the National Geographic Society's map of North Central United States. Write the Society's headquarters, Washington 6, D. C., for a price list of maps.

For additional information, see "Minnesota Makes Ideas Pay," in the *National Geographic Magazine* for September, 1949; "Men, Moose, and Mink of the Northwest Angle," August, 1947; and "Minnesota, Mother of Lakes and Rivers," March, 1935.

GEORGE MILES RYAN STUDIO

WHITE-SUITED MINNEAPOLIS MILL HANDS FILL AND STITCH FLOUR BAGS

In front of the man in the foreground, flour pours from the bin above through a shiny nozzle into a paper sack. The worker holds a filled bag in the stitching machine to sew it shut. The second worker places his finished bag on a conveyor belt built into the floor.

Bulletin No. 3, October 3, 1949

Baia, Brazil, Celebrates 400th Birthday

BAÍA, first capital of Brazil, this year celebrates its 400th birthday. Nearly three-quarters of a century before the Pilgrims landed at Plymouth, and 16 years before the oldest United States city—St. Augustine—was founded, this outpost of the Portuguese Empire sprang up on a peninsula extending south below the "hump" of the Brazilian coast.

Baía's founder was Tomé de Souza. With a thousand followers, he came to consolidate Portugal's claim to the rich New World province.

Elevators Link Two Levels

Named after the founder's flagship and the bay which Amerigo Vespucci discovered nearly half a century earlier, the settlement was called São Salvador da Bahía de Todos os Santos (Holy Saviour of the Bay of All Saints). This was shortened to Bahía. When Brazil's language was officially changed to "Brazilian" and the spelling simplified to Baía, the residents were reluctant to give up their silent h. Without the accent, *baia* means stable. At one time the city was officially called Salvador.

Baía is both a museum of early Brazil and a center of modern industry. Two separate levels, linked by elevators (illustration, next page), cable cars, steep winding roads, and stairstep streets emphasize its dual personality. On the lower level, around the broad shimmering bay, stand warehouses, banks, export offices, and the city market (illustration, inside cover). On the bluff high above the wharves and waterfront buildings, amid luxuriant trees and flowers, rise the old mansions, government buildings, schools, and churches.

Baía is called "the most historic city of Brazil" and "the Rome of South America." Although its claim to being Brazil's oldest city is disputed, it was unquestionably the Portuguese colony's first capital. It held that honor until the government moved to Rio de Janeiro in 1763. It is still the capital of rich and fertile Baía State. Traces of the city's original military character remain in the forts built around the harbor when rival European Powers were seeking land and treasure in the New World.

Religious Festivals Mark Anniversary

Baía's early role as the religious center of Portugal's South American colony is still seen in the numerous convents, monasteries, and scores of churches, their ornate interiors glittering with gold and elaborately painted and decorated.

In keeping with the traditions and customs of the city, this fourth centennial will be celebrated with religious festivals. For in Baía, now grown to a metropolis of nearly half a million people, life seems to be a continuous succession of festivals honoring various patron saints.

In the upper city, away from modern avenues, the flavor of mellow colonial life lingers in time-honored Portuguese names. Iron grillwork and carved wooden balconies of old houses tinted in soft pinks and blues are reminiscent of Lisbon, Baía's mother city. The elevators leading to the heights are another feature inherited by the younger city.

Down in the busy commercial district are other souvenirs of the past.

pation forces were quartered there for years, beginning December, 1918.

This long history of fortification, siege, and occupation seemingly left few marks on the charming placidity of Bonn life. But during World War II the Münster, an outstanding specimen of Romanesque architecture; the provincial museum, containing a large exhibit of prehistoric and Roman antiquities; Beethoven's home; and the university were all badly smashed. However, most of the historic relics and treasures remain intact.

Always somewhat slow to change and resistant to innovation, and yet liberal in thought—due to the university's influence—the citizens of Bonn threw Adolph Hitler out of town in 1933 when he tried to make a speech. But the war Hitler started greatly altered the city. One change is that Bonn is now capital of a federated German state, while Berlin languishes behind the iron curtain.

NOTE: Bonn may be located on the National Geographic Society's map of Germany and Its Approaches.

For further information, see "With Uncle Sam and John Bull in Germany," in the *National Geographic Magazine*, January, 1949; "Uncle Sam Bends a Twig in Germany," October, 1948; "What I Saw Across the Rhine," January, 1947; and "War's Wake in the Rhineland," July, 1945*. *(Issues marked with an asterisk are included in a special list of Magazines available to teachers in packets of ten for $1.00.)*

See also, in the GEOGRAPHIC SCHOOL BULLETINS, February 14, 1949, "Baedeker Guidebooks Stage Postwar Revival"; and "Berlin Strife Retards Reconstruction," October 11, 1948.

U. S. ARMY SIGNAL CORPS, OFFICIAL

A GI REVERENTLY PUTS FINGERS TO KEYS IN BONN, BEETHOVEN'S BIRTHPLACE

Bulletin No. 4, October 3, 1949

Summer's Forest Fires Took Big Toll

NEXT week's fire-prevention observances will remind many Americans of last summer's disastrous forest fires. Fire-prevention week—October 9-15—comes after the end of the normal forest-fire season—June 1 to September 15.

But still vivid are the memories of the big fires running wild in the national forests and parks last August, and of smaller but nonetheless dangerous conflagrations in the dry northeast woodlands. Thirteen "smoke-jumpers," highly trained young parachutists, died in one Montana blaze, marring a ten-year perfect record for that branch of the United States Forest Service.

1,825 on Fire Lines in Idaho

Small armies are recruited when major fires rage. It's everybody's job to stop them. The Forest Service provides the backbone, but volunteers from various walks of life furnish much of the "muscle." At one time this summer, Idaho alone had 1,825 men on the fire lines.

Amateur fire-fighters may include loggers and ranchers, state road crews and townspeople, military personnel and vacationists. Many come from the countryside nearest the fire. Others are recruited in more distant areas, and occasionally reinforcements may be flown in from out-of-state points.

When such modern minutemen are called into action, it is because the fire is a bad one. Only when timber-hungry flames rage out of control and sweep over vast acreages does the S O S sound for volunteer help.

Usually the regular Forest Service extinguishes woodland fires with little or no outside aid. Of some 14,000 fires which occur annually in the 152 national forests, all but a few are efficiently spotted and conquered before they have a chance to get out of hand.

Lookouts Are Eyes of Forest Service

During the fire season the 1,500 full-time field workers of the Forest Service are reinforced by some 5,000 seasonal employees which the Forest Service hires and trains each summer (illustration, next page). These seasonal recruits serve alongside the regulars as lookouts, smoke-jumpers, or smoke-eaters.

Eyes of the forest-fire service are the lookouts who man the 3,200 watch towers strategically spotted throughout the nation's forest lands. Their main job is to locate outbreaks of fire and telephone the information to the nearest ranger district.

Smoke-jumpers are fire-fighting paratroopers. Numbering more than 225, they are rushed by plane to plummet into remote and inaccessible fire areas which ground forces would take hours to reach. Most of them are college students and war veterans with fire-fighting and "jump" experience. Operating over California, Washington, Oregon, Montana, South Dakota, Idaho, Utah, and Wyoming, they have been flown on occasions up to 1,000 miles to do battle against forest flames.

The men who slug it out on foot with fires are called smoke-eaters, and

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Twentieth-century feet tread cobblestones brought over as ballast in 16th-century Portuguese ships. A characteristic figure is the street vendor whose ancestors were brought from Africa as slaves in early colonial days. Her turban, voluminous skirts of gay-colored cotton, jingling ornaments, and draped shawl are a heritage from the African Sudan, with a trace of French influence. From Africa, too, came recipes for the sweetmeats sold from the tray of this wandering merchant.

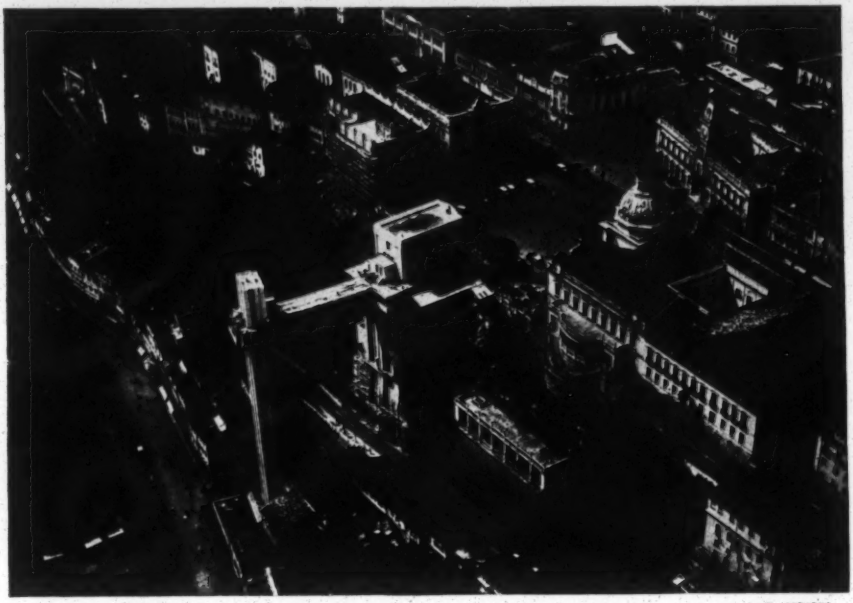
The early slave and sugar traffic brought Baía its first period of prosperity. When slavery ceased and sugar fortunes waned, new enterprises developed, growing out of the soil of Baía State.

As chief port of the state, Baía today is a trade center for cacao, tobacco, piassava (broom fiber), coffee, and hides. Some sugar is still exported. Through the city flows some 98 per cent of northern Brazil's huge cacao output. The Cacao Institute is a model of modern functional architecture. The State of Baía is the world's largest producer of this nut, source of the chocolate bar and the fudge sundae.

Although in the tropics, dependable trade winds keep Baía's climate temperate, with an average temperature of 77 degrees Fahrenheit.

NOTE: Baía may be located on the Society's map of South America.

See also, "Air Cruising Through New Brazil," in the *National Geographic Magazine*, October, 1942; "Skypaths Through Latin America," January, 1931; and "Gigantic Brazil and Its Glittering Capital," December, 1930.



A. W. STEVENS

"IT BEATS WALKING," SAYS BAÍA OF ITS MOST DISTINCTIVE LANDMARK—A 234-FOOT ELEVATOR

To reach the upper city from the waterfront, residents of the coastal Brazilian city can skip both the high road and the low road. An elevator with a gleaming concrete shaft (center) lifts them from wharf district to municipal plaza. It is a time-saver, too, even for automobile-owning Baianos. As pedestrians, they can whisk from one city level to another in a fraction of the time it would take to motor along the steep streets that climb the cliff.

Dead Sea Is Israel's "Chemical Gold Mine"

AT THE southern end of the Dead Sea, near the probable sites of Biblical Sodom and Gomorrah, the new state of Israel is reviving its potassium industry, which war disrupted.

This mineral, a leading export for the land formerly known as Palestine, comes from that "chemical gold mine," the Dead Sea. The narrow, mountain-set body of water is one of the world's chief sources of potassium. During World War II, it supplied the British Empire with at least half the potassium used for explosives and fertilizer.

Jordan Brings Dead Sea Water

From the Dead Sea come other valuable salts. These include magnesium chloride for textile and cement manufacture; and bromine, used in medicine, photography, and anti-knock gasoline. In 1946, more than 90,000 tons of potassium, 50 tons of bromine, and 12,000 tons of common salt (sodium chloride) were recovered from its landlocked waters.

In the region of the Dead Sea, nature is in one of its most freakish moods. The Jordan River brings in three-fourths of the sea's water supply (illustration, next page). From the Sea of Galilee on the north, the Jordan cuts a twisting course through a wild, deep gorge to the Dead Sea, hemmed in on the edge of the Negeb Desert.

The Dead Sea itself is the lowest spot on earth. Its surface is nearly 1,300 feet below the level of the Mediterranean. Its floor lies another 1,300 feet down. Under a burning sun, strange blue-white mists hover over the sea. This shifting haze is believed to be the result of the high rate at which moisture evaporates in the intense heat. Temperatures rise to well over one hundred degrees Fahrenheit.

Dead Sea water is estimated to be about eight times as salty as that of the open ocean. No fish can survive in such a solution, although modern gardens and settlements disprove old tales that vegetation and human life were impossible along the shores.

Sea May Cover Cities' Ruins

There are few natural resources in the Dead Sea area. Only in recent times has there been commercial development of the valuable salts concentrated there. Many expeditions have explored the region, but generally these have been attempts to locate the sites of Sodom and Gomorrah, prompted by Old Testament accounts of the fire-and-brimstone destruction of those cities whose names were synonyms for sin.

The locations of these two most notorious of the five wicked "Cities of the Plain" remain mysterious. Some authorities suggest that the ruins may lie beneath the Dead Sea. But it is more generally agreed that the cities stood on its southern shores.

Whatever the exact location of Sodom and Gomorrah, the Bible story of their fiery end is supported by the presence in the Dead Sea's neighborhood of old lava flows and inflammable mineral deposits.

A pillar of salt that still rises near the potassium works in the south

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on them falls the brunt of the work. It is with these smoke-eating groups that volunteers see most of their service.

NOTE: National parks and forests where disastrous fires have raged may be located on the Society's map of The United States of America.

For additional information, see "Forest Lookout," in the *National Geographic Magazine* for July, 1946.

RAY M. FILLOON

THEY BURN A BIT OF UMATILLA NATIONAL FOREST TO KEEP IT ALL FROM GOING UP IN SMOKE

Student fire fighters put out a small practice fire as part of their smoke-eating course of instruction. Here they use the Pulaski, a combined hoe and ax. Their skills and the constant vigilance of the United States Forest Service are a definite help in reducing the forest fire menace. In one period only one per cent of forests burned where cooperative federal, state, and private fire control was in effect. In privately owned forests with no such control, nearly 18 per cent burned.

Geographic Oddities and Briefs

Latest findings show that Alaska's Mt. McKinley is a little lower than previously computed. But it still retains its rank as North America's highest peak. The snow-covered giant's height is now officially 20,257 feet instead of 20,300.

Europe has seven midget countries: Luxembourg (999 square miles), Trieste (275), Andorra (191), Liechtenstein (61), San Marino (38), Monaco (½), and Vatican City (1/6). Delaware, second-smallest of the United States, could swallow the entire lot.

Most of the Brussels sprouts crop grown in America is produced on Long Island, New York.

is locally known as "Lot's Wife," the Bible character who was turned to salt for her curiosity in looking backward toward the doomed city of Sodom.

A British- and American-owned company started commercial extraction of Dead Sea salts in 1930. Except for some interruptions due to war, the work has steadily expanded since then. During the recent Arab-Jewish conflict, the plant at Kallia, at the northern end of the sea, was destroyed. The southern installations, however, escaped damage.

NOTE: The Dead Sea is shown on the Society's map of Bible Lands and the Cradle of Western Civilization.

For additional information, see "An Archeologist Looks at Palestine," in the *National Geographic Magazine* for December, 1947; "Palestine Today," October, 1946; "American Fighters Visit Bible Lands," March, 1946*; "The Geography of the Jordan," December, 1944; "Change Comes to Bible Lands," December, 1938; and "Bedouin Life in Bible Lands," January, 1937*.

See also, in the GEOGRAPHIC SCHOOL BULLETINS, November 15, 1948, "Gaza Is Key Arab Town in Negeb Strife"; "New Palestine Plan Would Alter Borders," October 18, 1948; "Desert Border Divides Palestine, Arab Lands," February 16, 1948; and "Palestine Division Affects Bible Landmarks," January 5, 1948.

AIR TRANSPORT COMMAND, OFFICIAL

IN SALT PANS AT THE JORDAN'S MOUTH, DEAD SEA WATER CRYSTALLIZES TO WHITE RECTANGLES

Water from the Dead Sea is run into these shallow pans at the mouth of the Jordan River. As the sun dries out the strong saline contents, the rectangles whiten. Dark areas indicate pans recently flooded. White ones are those in which the water has evaporated and the salt is ready to be raked into rows and given a final drying for shipment. Workers wear high boots to protect their feet.